Patent claims

Sub A3

1. Interface module for local data networks having an inductive component (7) used as a transformer for coupling interface circuits to a data line used to connect computers, with the inductive component having a magnetic core (9) and multiple windings applied to the core,
characterized in that
the inductive component (7) used as a transformer has a magnetic core (9) made of an amorphous or nanocrystalline alloy with a permeability $\mu > 15{,}000$ and the number of turns of the windings is between 5 and 25.

2. Interface module according to claim 1,
characterized in that
the amorphous or nanocrystalline alloy has a permeability $\mu > 30{,}000$.

3. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Co_a(Fe_{1-c}Mn_c)_bNi_dM_eSi_xB_yC_z$, with M indicating one or more elements from the group Nb, Mo, Ta, Cr, W, Ge, and/or P and $a+b+d+e+x+y+z = 100$, with

Co	a = 40 - 82 at%
Fe+Mn	b = 3 - 10 at%
Mn/Fe	c = 0 - 1
Ni	d = 0 - 30 at%
M	e = 0 - 5 at%
Si	x = 0 - 17 at%
B	y = 8 - 26 at%
C	z = 0 - 3 at%

and 15 at% < e+x+y+z < 30 at%.

4. Interface module according to claim 3,
characterized in that
the following relationships apply:

Co $a = 55 - 72$ at%
Mn/Fe $c = 0 - 0.5$
Ni $d = 0 - 20$ at%
M $e = 0 - 3$ at%
B $y = 8 - 20$ at%
Si $x = 1 - 18$ at%
and 20 at% < $e+x+y+z$ < 30 at%.

5. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Fe_xCu_yM_zSi_vB_w$, with M indicating an element from the group Nb, W, Ta, Zr, Hf, Ti, Mo, or a combination of these and $x + y + z + v + w = 100\%$, with

Fe $x = 100\% - y - z - v - w$
Cu $y = 0.5 - 2$ at%
M $z = 1 - 6$ at%
Si $v = 6.5 - 18$ at%
B $w = 5 - 14$ at%

with $v + w > 18$ at%.

6. Interface module according to claim 5,
characterized in that
the following relationships apply:

Cu $y = 1$ at%
M $z = 2 - 4$ at%
Si $v = 14 - 17$ at%,
with $v + w = 20$ to 24 at%.

7. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Fe_xZr_yNb_zB_vCu_w$, with $x + y + z + v + w = 100$ at%, with

Fe	$x = 100$ at% $- y - z - v - w$
Zr	$y = 2 - 5$ at%
Nb	$z = 2 - 5$ at%
B	$v = 5 - 9$ at%
Cu	$w = 0.5 - 1.5$ at%

with $y + z > 5$ at% and $y + z + v > 11$ at%.

8. Interface module according to claim 7,
characterized in that
the following relationships apply:

Fe	$x = 83 - 86$ at%
Zr	$y = 3 - 4$ at%
Nb	$z = 3 - 4$ at%
Cu	$w = 1$ at%

with $y + z > 7$ at% and $y + z + v > 12$ to 16 at%.

9. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Fe_xM_yB_zCu_w$, with M indicating an element from the group Zr, Hf, Nb and $x + y + z + w = 100$ at%, with

Fe	$x = 100$ at% $- y - z - w$
M	$y = 6 - 8$ at%
B	$z = 3 - 9$ at%
Cu	$w = 0 - 1.5$ at%.

10. Interface module according to claim 9,
characterized in that
the following relationships apply:

Fe x = 83 - 91 at%
M y = 7 at%.

11. Interface module according to claim 1 or 2, characterized in that the alloy has the composition $(Fe_{0.98}Co_{0.02})_{90-x}Zr_7B_{2+x}Cu_1$, with x = 0 - 3 at%, with the residual alloy component Co able to be replaced by Ni with appropriate equalization.

12. Interface module according to claim 11, characterized in that x = 0.

Figs. 4-7: Ferrite = Ferrite